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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,859	10/15/2001	Katsuyoshi Fujita	5000-4964	3822
75	90 07/25/2003			
MORGAN & FINNEGAN, L.L.P.			EXAMINER	
345 Park Avenue New York, NY 10154			WYSZOMIERSKI, GEORGE P	
			ART UNIT	PAPER NUMBER
			1742	\sim
~	•		DATE MAILED: 07/25/2003	19

Please find below and/or attached an Office communication concerning this application or proceeding.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ② MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Exhamition of time regive available under the provisions of 37 CFR 1.13(8). In ne event however, may a reply be timely filed Exhamition of time regive available under the provisions of 37 CFR 1.13(8). In ne event however, may a reply be timely filed Exhamition of time regive available under the provisions of 37 CFR 1.13(8). In ne event however, may a reply be timely filed Exhamition of timely is specified above, in exactions of 37 CFR 1.13(8). In ne event however, may a reply be timely filed If the period for reply separate dealed period for reply vall, by dealed, cause this application to become ABANCONED (39 U.5.C.§ 1.135). Any reply received by the Office limit this there emplished whether the mainling date of this communication, even if timely filed, may reduce any Status 1)② Responsive to communication(s) filled on 05 June 2003. 2a)② This action is FINAL. 2b)② This action is FINAL. 2b)② This action is non-final. 3)□ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4)○ Claim(s) is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5)□ Claim(s) is/are allowed. 6)○ Claim(s) is/are allowed. 8)○ Claim(s) is/are allowed. 9)○ The drawing(s) filed on is/are: a)○ accepted or b)○ objected to by the Examiner. 10)○ The drawing(s) filed on is/are: a)○ accepted or b)○ objected to by the Examiner. 10)○ The drawing(s) filed on is/are: a)○ accep			
Examin r Art Unit 1742		Application No.	Applicant(s)
Secretary Polyszomierski 1742 Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE Of this communication appears on the cover sh et with th correspondence address—the MAILING DATE OF THIS COMMUNICATION. If the period for reply specified above is less than thiny (30) stays, a reply which the stability minimum of thiny (30) days all be considered timely. If the period for reply specified above is less than thiny (30) stays, a reply which the stability minimum of thiny (30) days will be considered timely. If the period for reply specified above is less than thiny (30) stays, a reply which the stability minimum of thiny (30) days will be considered timely. If the period for reply specified above is less than thiny (30) stays, a reply which the stability minimum of thiny (30) days will be considered timely. If the period for reply specified above is less than thiny (30) stays, a reply which the stability minimum of thiny (30) days will be considered timely. If the period for reply is specified above is less than thiny (30) stays a reply which the stability mentions are reply in sections of the state of the communication, and the second and the state than there enough sent and state the malling date of this communication, even if simely filed, may reduce any state and state than there are stated to the second and state than there are stated to the second and state than the malling date of this communication, even if simely filed, may reduce any stated and stated than the malling date of this communication, even if simely filed, may reduce any stated and stated than the malling date of this communication, even if simely filed, may reduce any stated and stated any reduce any stated and stated of the action of the stated and stated of the stated		09/977,859	ISHIKURA ET AL.
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1. The disclosure is objected to because of the following informalities:

- a) In claim 22, line 7, "the hydrogen-storage tank" lacks proper antecedent basis.
- b) In claim 37, line 4, "powdered" is misspelled.

Appropriate correction is required.

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1-3, 5, 8, 11, 12, 20-26, 29, 31, 32, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fetcenko et al. (U.S. Patent 4,893,756), in view of either Sandrock et al. (U.S. Patent 4,839,085) or Imai et al. (U.S. Patent 6,247,660). This is a new ground of rejection.

Fetcenko et al. discloses a process which includes placing a hydrogen storage alloy in a vessel, and introducing hydrogen into the vessel so that the alloy absorbs hydrogen (and undergoes a volumetric expansion) and undergoes comminution into small flakes or particles. The particles are then cooled, and used in a hydrogen storage electrochemical cell. With respect to instant claims 12 and 32, the examples of Fetcenko comprise titanium and vanadium (see Fetcenko column 9, line 56), and the presently claimed BCC structure would be inherent in such a composition. Fetcenko emphasizes the importance of avoiding exposure of the comminuted particles to atmospheric conditions or oxygen; see Fetcenko column 6, lines 7-11.

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With regard to instant claims 5, 26 and 37, Fetcenko column 6, lines 3-8 suggests such a feature.

Fetcenko does not specify the flat lid limitations of instant claims 8 and 29, and does not discuss either evacuating a hydrogen storage tank or filling a tank with inert gas and transferring the hydrogen storage alloy particles to the tank. However,

- a) The use of a flat or any other shaped lid would be within the purview of the prior art, i.e. nothing in the Fetcenko reference would appear to limit the shape of any portion of the apparatus employed therein. It is noted that apparatus limitations generally do not confer patentability upon an otherwise known process; compare *In re Sweeney* (72 USPQ 501). As such, the use of a flat lid would at best define an obvious variant of the Fetcenko process.
- b) Both the Sandrock and Imai patents indicate the conventionality in the art of placing hydrogen storage materials in either a vacuum or an inert gas atmosphere following hydriding thereof. See, for example, Sandrock column 6, lines 63-68, column 7, lines 13-20, or column 8, line 17. See also Imai column 7, line 65 to column 8, line 4.

These disclosures of Sandrock or Imai et al. would have motivated one of ordinary skill in the art to include the evacuating or filling with inert gas steps as presently claimed, following a hydrogen comminution process as discussed by Fetcenko et al.

4. Claims 6, 7, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fetcenko et al. in view of Sandrock et al. or Imai et al., as set forth supra, and further in view of Leland (U.S. Patent 4,925,486).

None of Fetcenko, Sandrock, or Imai disclose the ball valve recited in the instant claims.

The Leland patent indicates the conventionality in the art of employing a ball valve in a process which involves using hydrogen to comminute metallic alloys into particles; see Leland column 3,

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lines 52-54. Given this disclosure of Leland, the practice of the Fetcenko process (as modified by Sandrock or Imai) in an apparatus which includes a ball valve would have been considered an obvious expedient by one of ordinary skill in the art.

- 5. In a response filed June 5, 2003, Applicant has amended the independent claims to require either a step of evacuating a hydrogen storage tank or filling such a tank with an inert gas. Applicant alleges that the Fetcenko reference does not disclose or suggest such a step. The examiner's position is that Sandrock and/or the newly applied Imai et al. references supply any deficiency in this respect which may be present in the Fetcenko reference alone.
- 6. Claims 4, 9, 13-15, 19, 30, and 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or suggest the combination of pressure and teperature as recited in instant claims 4, 13, or 33, nor does the prior art disclose or suggest the concept of continuously supplying an inert gas to the hydrogen storage tank while the lid is being affixed thereto, as set forth in instant claims 9 or 30.
- Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (703) 308-2531. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. The fax phone number for this Group is (703) 872-9310 for all correspondence except for After Final amendments in which case the Fax number is (703) 872-9311. The Right fax number for this examiner is (703) 872-9039. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

GPW July 23, 2003

GEORGE WYSZOWIERSKI PRIMARY EXAMINER